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BEFORE THE ARIZONA CORPORATION COMMISSION

JEFF HATCH-MILLER  
Chairman  
WILLIAM A. MUNDELL  
Commissioner  
MARC SPITZER  
Commissioner  
MIKE GLEASON  
Commissioner  
KRISTIN K. MAYES  
Commissioner

Arizona Corporation Commission

DOCKETED

APR 20 2006

DOCKETED BY	
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IN THE MATTER OF THE APPLICATION  
OF ARIZONA PUBLIC SERVICE  
COMPANY FOR APPROVAL OF THE  
ENVIRONMENTAL PORTFOLIO  
STANDARD CREDIT PURCHASE  
PROGRAM AND FOR THE  
AUTHORIZATION TO ENTER INTO EPS  
CREDIT CONTRACTS

DOCKET NO. E-01345A-05-0373

DECISION NO. 68668

ORDER

Open Meeting  
April 12, 2006  
Phoenix, Arizona

BY THE COMMISSION:

FINDINGS OF FACT

1. Arizona Public Service Company ("APS") is certificated to provide electric service as a public service corporation in the State of Arizona.

2. In 2002, APS initiated the Environmental Portfolio Standard Credit Purchase Program ("EPS Credit Purchase Program") as part of its effort to meet the requirements of the Environmental Portfolio Standard ("EPS") Rule. From 2002 through 2005, a total of 538 APS customers installed solar energy systems in the EPS Credit Purchase Program, which helped APS to meet a portion of its annual EPS requirement. In general, these customers installed various qualifying renewable energy systems on their properties. APS reimbursed them a portion of the costs of these systems, and in return APS acquired the renewable energy credits associated with these systems. APS could then apply these credits to its environmental portfolio requirements.

1           3.       On April 7, 2005, the Arizona Corporation Commission ("Commission") entered  
2 Decision No. 67744, which adopted a settlement agreement concerning APS' rate case. The  
3 decision provided that subsequent to the approval of the settlement, renewable programs that  
4 directly involve APS' retail customers must be submitted to the Commission for approval.

5           4.       On May 25, 2005, APS filed an Application for Approval of the Environmental  
6 Portfolio Standard Credit Purchase Program and for Authorization to Enter into EPS Credit  
7 Purchase Contracts (the subject application).

8           5.       On November 21, 2005, APS filed a request to amend the application by replacing  
9 Exhibit A with a revised version of Exhibit A.

10  
11 Proposed APS EPS Credit Purchase Program

12           6.       The APS EPS Credit Purchase Program is one method by which APS can meet a  
13 portion of its annual renewable kWh requirement established in the Environmental Portfolio  
14 Standard. Instead of APS building renewable energy systems to meet the annual EPS requirement,  
15 APS offers incentives to customers who wish to install eligible renewable energy systems.

16           7.       In return for the APS incentive, APS gets credit for the renewable kWh generated  
17 or conventional energy that is replaced with the customer-sited renewables. This credit helps APS  
18 meet its annual EPS requirement at a much lower cost than if APS had installed the renewable  
19 system itself.

20           8.       The APS EPS Credit Purchase Program, as currently proposed, allows for four  
21 options for APS customers: 1) grid-tied photovoltaic systems; 2) off-grid photovoltaic systems; 3)  
22 solar water heating systems, and 4) solar heating, ventilation, and air conditioning ("HVAC")  
23 systems. An APS customer who wishes to install any of these types of systems may apply to APS  
24 for an incentive.

25           9.       APS has established a reservation system by which qualifying APS customers may  
26 reserve program funding. Funds are made available for reservation on the first working day after  
27 January 1 of each year. Reservations for future years cannot be made. Multi-year reservations  
28 cannot be made.

1           10. For customers with photovoltaic systems and small water heating systems, the  
2 customer has 180 days from the date of the reservation confirmation to complete the installation.  
3 Customers may request extensions beyond the 180 days. If no extension is granted by APS, the  
4 funds will be made available to other customers.

5           11. For large solar water heating systems and solar air conditioning systems, the  
6 customer has 365 days from the date of the reservation confirmation to finish the installation. APS  
7 may allow extensions of this limit, if requested by the customer.

8           12. All systems shall be installed by a contractor holding a valid license from the  
9 Arizona Registrar of Contractors for electrical, solar plumbing, solar boiler, or solar air  
10 conditioning and refrigeration work, or as appropriate to the system to be installed. On completion  
11 of the installation, APS shall inspect and approve the system.

12           13. All systems eligible for credit purchase must be located on an APS customer's  
13 property, except for off-grid systems. Commercial systems may be owned by third parties and  
14 APS may, with customer consent, make payment to such third parties.

15  
16 Grid-tied Photovoltaic Systems

17           14. In the grid-tied option, the customer's photovoltaic system is interconnected to the  
18 APS electric grid. The customer receives a one-time EPS credit purchase payment of \$3.00 per  
19 watt-DC. For system expansions, the payment is capped at 50 percent of the total expansion cost.

20  
21 Off-grid Photovoltaic Systems

22           15. This option is available to both residential and commercial customers in remote  
23 areas that are not connected to the electric grid, but want to use solar energy to provide their  
24 electric power. APS makes this option available to remote residents in fringe areas that adjoin the  
25 APS service territory, as long as permission from the adjoining utility is obtained. The participant  
26 receives a one-time EPS credit purchase payment of \$2.00 per watt-DC for the installation of an  
27 off-grid photovoltaic system, up to a maximum size of 5 kW.

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### Small Solar Water Heating Systems

16. The customer receives a one-time EPS credit purchase payment for the installation of a solar water heating system of \$0.50 per first-year kilowatt-hour savings based on the OG-300 rating from the Solar Rating and Certification Corporation<sup>1</sup>. The option is limited to systems rated at 10,000 kWh per year energy savings or less.

### Large Solar Water Heating Systems

17. The commercial customer will receive a production-based incentive ("PBI") for the thermal energy delivered by a solar water heating system of \$0.07 per kilowatt-hour equivalent based on metered production in British Thermal Units ("BTUs"). The calculation for payment is the produced BTUs divided by 3,412 BTUs per kWh times \$0.07. The PBI is for a term of 10 years or until 50 percent of the total system cost is collected, whichever comes first. Payments are made at the end of each calendar quarter within 30 days of receipt of thermal meter readings provided by the customer. The minimum system size for this option is 5,000 kWh per year energy savings.

### Solar HVAC Systems

18. This option is available to commercial customers to install a solar HVAC system. The customer will receive a PBI for thermal energy delivered for cooling by a solar HVAC system of \$0.16 per kilowatt-hour equivalent based on metered production. Systems that incorporate solar thermal heating and/or solar thermal water heating are eligible for the solar water heating PBI of \$0.07 per kilowatt-hour equivalent of thermal energy delivered for heating. The PBI is for the term of 10 years or until 50 percent of the total system cost is collected, whichever comes first. All heating and cooling payments are credited for calculation of the 50 percent cap. Payments are made at the end of each calendar quarter within 30 days of receipt of thermal meter readings,

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<sup>1</sup> The national Solar Rating and Certification Corporation ("SRCC") is a non-profit organization that develops and implements certification programs and national rating standards for solar energy equipment.

1 which are provided by the customer. The minimum system size is 10 tons of cooling. Cooling and  
2 heating must be metered and reported separately.

3 19. As described in Findings of Fact Nos. 17 and 18, the proposed Large Solar Water  
4 Heating option and Solar HVAC option both provide quarterly payments to participating  
5 customers based on thermal meter readings provided by the customers. This arrangement presents  
6 an obvious conflict of interest because the customer is the beneficiary of the payment whose  
7 amount is based on information supplied to APS by the customer. To eliminate this conflict, we  
8 will require APS to make its own thermal meter readings for the purposes of determining the  
9 amount of its quarterly payments to customers participating in the Large Solar Water Heating  
10 option and Solar HVAC option.

#### 11 12 Dealers and Manufacturers of Photovoltaic Solar Energy Systems

13 20. Dealers and manufacturers of photovoltaic solar energy systems may apply for an  
14 EPS credit purchase agreement. APS has established various restrictions on the cost basis of the  
15 equipment. A dealer cannot profit from installing its own system on its facilities or include a  
16 mark-up for systems sold to itself or its employees. Dealers receive a one-time EPS credit  
17 purchase payment of \$3 per watt-DC or 50 percent of the system cost whichever is less.

#### 18 19 EPS Credit Purchase Contracts

20 21. In addition to the APS EPS Credit Purchase Program, APS has requested  
21 authorization to continue to enter into bi-lateral agreements to purchase EPS credits for energy  
22 generated from qualified renewable energy projects, other than through the EPS Credit Purchase  
23 Program. APS suggests that such authorization provides negotiating flexibility to both APS and its  
24 customers. Such flexibility will support and encourage the development of large renewable  
25 projects in the State of Arizona, according to APS.

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1 Major Changes from the Existing APS EPS Credit Purchase Program

2       22. Since the original filing was made in May, APS has worked closely with a variety  
3 of stakeholders to establish a framework for an Arizona Uniform Credit Purchase Program  
4 (“UCPP”). The intent of the UCPP is to establish fundamental procedures for EPS credit  
5 purchases that can be implemented in a uniform manner throughout Arizona. The UCPP  
6 development is still ongoing, but APS has come to agreement with renewable industry members  
7 on some issues related to solar technologies.

8       23. APS has worked closely with the solar industry to modify the current APS Credit  
9 Purchase Program to reflect the new consensus with the solar industry that will likely become the  
10 foundation of the new UCPP effort. APS’ November 21, 2005 proposed amendment incorporates  
11 a number of significant changes.

12       24. The APS-proposed incentive level for grid-tied photovoltaics is reduced from \$4.00  
13 per watt-DC (which is in the current APS EPS Credit Purchase Program) to \$3.00 per watt-DC for  
14 residential customers and \$2.50 per watt-DC for non-residential customers. These new incentive  
15 levels shall take effect upon approval of this order and projects submitted to APS prior to approval  
16 of this order shall be granted the APS proposed incentive level of \$3.00 per watt-DC. By reducing  
17 the incentive level for non-residential customers, APS will be able to complete more grid-tied solar  
18 photovoltaic projects with their limited available funds. Additionally, the Commission is reducing  
19 the incentive level for non-residential projects because the market for non-residential grid-tied  
20 solar photovoltaic projects is very strong and will be able to absorb a lower incentive level.

21       25. The APS-proposed incentive for small solar water heating systems is changed from  
22 a \$700 per system flat incentive (in the existing program) to an incentive that is set at \$0.50 per  
23 first year kilowatt-hour savings based upon certified ratings.

24       26. The APS proposal sets a \$500,000 cap on incentive payouts to any single customer  
25 in a calendar year.

26       27. The proposal introduces a new production based incentive (“PBI”) for solar heating,  
27 ventilation, and air conditioning (“HVAC”) systems as well as large commercial water heating

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1 systems. Under the PBI approach, customers will receive quarterly payments for the amount of  
2 thermal energy produced over a period of up to 10 years.

3 28. APS plans to allocate \$4.25 million to this program in 2006. Half of the funds will  
4 be allocated to residential customers and half to commercial customers. However, since the  
5 Company filed this Application, demand for these funds has been stronger than anticipated. As of  
6 this date, APS had already provided commitments of \$4.25 million to EPS Credit Purchase  
7 Program customers and had begun placing customers on a waiting list. Because the demand for  
8 this program has already exceeded the funding provided for in this Application, and because that  
9 demand is unlikely to subside, we find it reasonable to require APS to set aside an additional \$4.25  
10 million to ensure that customers are able to implement distributed generations systems during the  
11 remainder of 2006. Therefore, the total amount allocated to this program for 2006 shall be \$8.5  
12 million. A sum of \$500,000 from the commercial funds will be reserved for customers with  
13 photovoltaic systems, solar HVAC systems, or solar water heating systems that are willing to  
14 negotiate a PBI in lieu of an up-front incentive.

15 29. Finding of Fact No. 28 directs APS to set aside an additional \$4.25 million for this  
16 program for the remainder of the calendar year. The Commission recognizes that the recovery of  
17 these additional funds is best addressed through APS' ongoing general rate case. Therefore, these  
18 funds will be recovered through APS' ongoing rate case or through consideration of an increase to  
19 the RES adjustor mechanism as established in Decision No. 67744, whichever comes first.

20 30. The Commission is concerned that APS is proposing to spend \$3.6 million in 2006  
21 EPS funds to pay for Credit Purchase Program projects from 2005. Therefore, the Commission  
22 finds that APS is required to set aside their annual CPP budget to ensure that reserved CPP funds  
23 are applied to CPP projects when they are completed, regardless of the calendar year in which they  
24 are completed. This will ensure that all CPP funds go directly to CPP projects and funds allocated  
25 to the CPP are available without impacting future-year EPS budgets.

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1 Staff's Review of the APS Application and Program

2 31. Staff has reviewed the APS application and is in general support of the program,  
3 with a few recommendations.

4 32. Staff recognizes that the revised APS Environmental Portfolio Standard Credit  
5 Purchase Program is a significant improvement over the existing APS program. APS has worked  
6 cooperatively with the solar industry to establish a common foundation for EPS credit purchases.

7 33. Staff supports the APS effort to establish production-based incentives. This is a  
8 new concept in Arizona. Until now, the primary incentives have been up-front incentives which  
9 help the customer "buy-down" the cost of installing a renewable system. This is advantageous to  
10 the customer who might not have the initial capital to buy and install a renewable energy system.  
11 However, the up-front incentive requires APS to buy, in effect, 20-30 years of future renewable  
12 kWh in a one-time payment.

13 34. The PBI approach allows APS to purchase only the renewable kWh that are needed  
14 in the current year, allowing APS to purchase many more renewable kWh for a given amount of  
15 portfolio funding. For instance, for the same amount of money used to offer an up-front incentive  
16 for six projects, APS could offer a PBI incentive for a dozen or possibly two dozen projects  
17 producing significantly more kWh in a given year.

18 35. Staff recommends the allocation of \$500,000 from the commercial funds for PBI  
19 incentives. Staff believes that the allocation for PBIs should not be limited to photovoltaics, but  
20 should also be available for solar water heating and solar HVAC systems to qualify for PBI  
21 incentives in the 2006 program.

22 36. Staff recommends that APS subdivide the \$500,000 for PBIs into three allocations.  
23 That would be a minimum of \$150,000 for photovoltaics and a minimum of \$50,000 each for solar  
24 HVAC and solar water heating. If, by September 30, 2006, all of the funds in any of the three  
25 allocations are not yet reserved, the remaining money shall be made available to other customers.

26 37. In the original APS application, APS requested authorization to continue to enter  
27 into bi-lateral agreements to purchase EPS renewable energy credits for energy generated from  
28 eligible renewable energy resources which are not included in the 2006 APS EPS Credit Purchase



1 Program. This request is really separate and distinctly different than the major request in the  
2 application which was to approve the 2006 EPS Credit Purchase Program.

3 38. Staff recommends denial of the request for authorization to enter into bi-lateral  
4 agreements at this time. Based upon inclusion of a Uniform Credit Purchase Program Section in  
5 the proposed EPS Rule amendments, Staff believes that by the end of 2006 there should be  
6 established a uniform credit purchase requirement. At that time, APS may choose to request  
7 approval for authorization to enter into bi-lateral agreements consistent with the approved Uniform  
8 Credit Purchase Program. APS may, of course, request approval of individual agreements on a  
9 case-by-case basis. APS also may file subsequent applications to expand the programs and/or  
10 technologies that comprise its credit purchase program.

11  
12 Comments Filed in the Docket

13 39. On June 20, 2005, the Arizona Solar Energy Industries Association ("AriSEIA")  
14 filed comments on the initial May 25, 2005 APS filing. AriSEIA recommended, at that time, that  
15 the incentive for solar water heaters be set at an upfront incentive of \$1 per first-year kWh saved or  
16 one-half of the cost of the system. After AriSEIA met with APS, AriSEIA filed comments on  
17 December 8, 2005, responding to the November 21, 2005 APS-revised Exhibit A. In this letter,  
18 AriSEIA requested that the Commission approve the revised EPS Credit Purchase Program as filed  
19 by APS with an incentive of \$0.50 per first-year kWh saved.

20 40. In addition to AriSEIA, three other solar industry individuals and organizations  
21 filed comments. They were: Robert Annan, Industrial Solar Technology Corporation, and  
22 Kyocera Solar, Inc. All three letters were in support of the proposed APS EPS Credit Purchase  
23 Program.

24 41. The Greater Tucson Coalition for Solar Energy ("GTCSE") also filed comments,  
25 which encouraged the Commission to approve the program. However, GTCSE offered three  
26 recommendations. First, GTCSE did not like the \$500,000 annual cap on incentives to any single  
27 customer in a single year. It suggested that the limit be lifted for public institutions such as  
28 governments and schools. Second, GTCSE suggested that implementation of production based

1 incentives “be tied to the capacity of financing entities to monetize the payments and assume the  
2 necessary up-front capital.” Third, GTCSE recommended a timeline longer than 365 days for  
3 large projects or a mechanism for easy extension.

4 42. The City of Tucson filed a letter that was “in general support of the program,” but  
5 offered some comments. Tucson believes that negotiating for production-based incentives is  
6 inconsistent with a Uniform Credit Purchase program. Tucson does not agree with an annual cap  
7 on incentives. Tucson suggested that projects needing an incentive above the cap should submit a  
8 proposal to the ACC for consideration. Tucson recommended against incentives for off-grid  
9 applications. Tucson also recommended that solar water heating systems should be allowed to  
10 replace natural gas.

11 43. S.O.L.I.D. USA, Inc. (“S.O.L.I.D.”) filed comments in support of the proposed APS  
12 EPS Credit Purchase Program. However, S.O.L.I.D. also requested clarification of a number of  
13 issues related to the program.

14 44. S.O.L.I.D. comments that APS proposes that the “credit purchase agreement  
15 assigns the rights to all associated EPS credits.” S.O.L.I.D. suggests that the program wording be  
16 changed to show that the credit purchase agreement assigns all associated EPS credits for which  
17 APS pays during the contract period and not for the entire life of the project.

18 45. S.O.L.I.D. further commented that on Page 3 of Exhibit A, APS specifies that  
19 systems “must be located on APS customer’s property.” S.O.L.I.D. requested that the wording be  
20 changed to “must be located on an APS customer’s property or supply a central plant that  
21 generates energy for an APS customer.”

22 46. S.O.L.I.D. mentions that the Large Solar Water Heating section of the proposed  
23 program mentions the “two customers per calendar year and a maximum of 60,000 therms per  
24 calendar year” restriction for projects that displace natural gas. This restriction was included in the  
25 waiver approved by the Commission in Decision No. 66565, dated November 13, 2003.  
26 S.O.L.I.D. asked for clarification that the restriction applies to hot water projects only and not to  
27 HVAC projects.

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1           47.     S.O.L.I.D. also asked for clarification of wording on Page 8 of Exhibit A that says  
2 that program incentives are “available to commercial customers to replace” certain systems.  
3 S.O.L.I.D. requests clarification that the term “replace” does not restrict the program to retrofits,  
4 but also allows new installations.

5           48.     Finally, S.O.L.I.D. asks for clarification of wording on Page 8 of Exhibit A that  
6 says “replace an electric HVAC system.” S.O.L.I.D. asks for clarification that a solar HVAC  
7 system must replace electricity for cooling, but can displace natural gas for both associated heating  
8 and hot water.

9  
10 Comments Provided to Staff

11           49.     Although he did not file written comments in the docket, Mr. Tom Bohner of Sun  
12 Systems, Inc. called Staff to express concern about the fact that APS would be using a  
13 performance-based incentive for small solar water heaters rather than a flat fee incentive.  
14 Mr. Bohner’s concern was that such a performance-based incentive may cause dealers and  
15 customers to oversize systems and include the most efficient black chrome collectors which could  
16 cause system problems due to overheating. He contends that such overheating may cause future  
17 system damage, requiring future repair or replacement of equipment.

18  
19 Staff Review of Comments Received

20           50.     Staff has reviewed the comments filed in this docket. Staff supports the \$500,000  
21 annual cap. This is a reasonable cap when the current budget is \$4.25 million. Without such a  
22 cap, four or fewer large customers could lock up most of the non-residential money in the  
23 reservation system, leaving many smaller customers without a chance to participate. Staff  
24 recommends that the Commission allow APS, if increased funds become available, to increase the  
25 cap if there is demand for such an increase and if sufficient funding is available after all other  
26 reservation commitments have been satisfied.

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1           51.     Staff supports the modest level of PBI reservation funding. This effort by APS will  
2 provide a test of whether customers really want such an incentive, rather than an upfront buy-down  
3 incentive.

4           52.     Staff supports the APS 365-day timeline for larger projects, at this time. If more  
5 funding becomes available, the proposed Uniform Credit Purchase Program may be able to address  
6 this issue for future years.

7           53.     Staff disagrees with the City of Tucson on incentives for off-grid applications. Off-  
8 grid applications, particularly in remote locations, will avoid the need for utilities or customers to  
9 build long distribution lines.

10          54.     Staff agrees with the City of Tucson that solar water heating that replaces natural  
11 gas should be allowed in the Portfolio Standard. However, this is better addressed in the amended  
12 EPS Rules process. APS has already been granted a waiver that allows solar water heaters to  
13 replace natural gas in Decision No. 66565, dated November 18, 2003.

14          55.     Staff agrees with S.O.L.I.D. and recommends that the program wording be changed  
15 to indicate that the purchase agreement assign all associated EPS credits for which APS pays  
16 during the contract period.

17          56.     Staff has reviewed S.O.L.I.D.'s request to change the wording on Page 3 of Exhibit  
18 A that currently reads "must be located at customer's property." In response to S.O.L.I.D.'s  
19 proposed revised wording, APS has countered with a different approach. APS suggested the  
20 revision should say "must be located on an APS customer's property or supply a central plant that  
21 generates energy exclusively for APS customers." Staff believes that the S.O.L.I.D. wording is the  
22 better approach. Staff believes that using the new APS-proposed wording would preclude  
23 potential future large-scale district heating and cooling projects, where customers other than APS  
24 customers could participate. Staff recommends the inclusion of the S.O.L.I.D. wording, which  
25 would be followed by wording that would require additional metering for non-APS customers that  
26 may participate in the project.

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1           57. Staff agrees with S.O.L.I.D. that clarification to the restrictions in Decision  
2 No. 66565 may be beneficial, but Staff believes that this issue should not be addressed in this  
3 docket.

4           58. Staff agrees with S.O.L.I.D. and recommends that the APS EPS Credit Purchase  
5 Program clarify that new construction should be allowed.

6           59. Staff disagrees with S.O.L.I.D. that the program should say that a solar HVAC  
7 system must replace electricity for cooling, but can displace natural gas for both associated heating  
8 and hot water heating. This clarification goes beyond the scope of this docket and should be  
9 addressed in the current rule amendment docket.

10          60. Staff has considered the concerns expressed by Sun Systems, Inc. Although there  
11 may be some problems that result from the APS-proposed solar water heating incentive, it is too  
12 soon to know the scope of any potential problems. Staff recommends that APS be allowed to offer  
13 the proposed performance-based solar water heater incentive for the entire 2006 calendar year.  
14 This issue should be examined by the Uniform Credit Purchase Program Working Group.

15  
16 Staff Recommendations

17          61. Staff recommends that the funding reserved for production based incentives be  
18 allocated a minimum of \$150,000 for photovoltaics and a minimum of \$50,000 each for solar  
19 HVAC systems and solar water heating systems. If, by September 30, 2006, all of the funds in any  
20 allocation are not yet reserved, the remaining money shall be made available to other customers.

21          62. Staff recommends approval of the \$500,000 cap on annual incentive payments to  
22 any single customer, but recommends that the Commission allow APS, if increased funding  
23 becomes available, to increase the annual cap if there is demand for such an increase and if  
24 sufficient funding is available after all other reservation commitments have been satisfied.

25          63. Staff recommends that APS modify the wording in Exhibit A of its November 21,  
26 2005, filing as follows:

27               In the "General Requirements" section, Page 3 of Exhibit A, first  
28 paragraph, APS shall add a final sentence that says:

1           “The assignment of the associated EPS credits and environmental  
2           attributes to APS shall only apply to the contract period for which  
3           APS pays the customer.”

4           On Page 3, last paragraph, APS shall modify the first sentence and add an  
5           additional sentence following the first sentence that says:

6           “All systems eligible for credit purchase must be located on an  
7           APS customer’s property or supply a central plant that generates  
8           energy for an APS customer, except for off-grid systems. Any  
9           project developer that builds an eligible system that also provides  
10          energy to a non-APS customer must provide metering to document  
11          the energy received by each customer.”

12          On Page 8, under Section E, Solar HVAC Systems, the first bullet under  
13          “Qualifications for Solar Air Conditioning Systems,” shall be changed to read:

- 14           “• This option is available to commercial customers and must  
15           replace an electric HVAC system, another HVAC system  
16           approved by the ACC, and may be used for new construction if  
17           not prohibited by another Commission Decision or waiver  
18           restriction.”

19          64. Staff further recommends denial of APS’ request for authorization to enter into  
20          bilateral agreements with customers to purchase EPS Credits for energy generated from qualified  
21          renewable energy projects that are not included in the APS EPS Credit Purchase Program. APS  
22          may, however, request approval of individual agreements on a case-by-case basis. APS also may  
23          file subsequent applications to expand the programs and technologies that comprise its credit  
24          purchase program.

25          65. Staff recommends that the APS EPS Credit Purchase Program be approved with the  
26          changes discussed herein and listed above.

27          66. We will approve the APS EPS Credit Purchase Program with the changes  
28          recommended by Staff herein, except that we will require APS to make its own thermal meter  
29          readings for the purposes of determining the amount of quarterly payments to customers  
30          participating in the Large Solar Water Heating option and Solar HVAC option, as discussed in  
31          Finding of Fact No. 19.

32          ...

67. We will approve the APS EPS Credit Purchase Program with the changes recommended by Staff herein except that we will not approve that portion of the Off-Grid Photovoltaic Systems option that applies to individuals outside of APS' service territory. However, off-grid systems outside of the APS service territory that have already been installed or that have already received a commitment from APS shall continue to be authorized. APS shall amend its Exhibit A to reflect this modification.

#### CONCLUSIONS OF LAW

1. APS is an Arizona public service corporation within the meaning of Article XV, Section 2, of the Arizona Constitution.

2. The Commission has jurisdiction over APS and over the subject matter of the application.

3. The Commission, having reviewed the application and Staff's Memorandum dated February 28, 2006, concludes that the filing is in the public interest.

#### ORDER

IT IS THEREFORE ORDERED that the APS Credit Purchase Program is hereby approved, with the modifications recommended in Findings of Fact Nos. 12, 19, 24, 28, 29, 30, 61, 62, 63, 64, 65, 66, and 67.

IT IS FURTHER ORDERED that APS shall make its own thermal meter readings for the purposes of determining the amount of quarterly payments to customers participating in the Large Solar Water Heating option and Solar HVAC option.

IT IS FURTHER ORDERED that APS' request for authorization to enter into bilateral contracts to purchase EPS Credits for energy generated from qualified renewable energy projects that are not included in the APS EPS Credit Purchase Program is denied.

IT IS FURTHER ORDERED that any additional funds put into the credit purchase program by APS at the direction of the Commission shall be recovered in rates as part of APS' ongoing general rate case.

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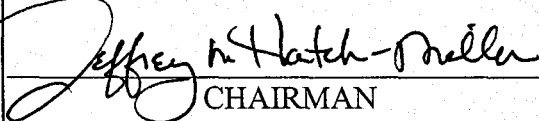
...


1 IT IS FURTHER ORDERED that APS is required to set aside its annual CPP budget to  
2 ensure that reserved CPP funds are applied to CPP projects when they are completed, regardless of  
3 the calendar year in which they are completed.

4 IT IS FURTHER ORDERED that APS submit to Docket Control, within 15 days of this  
5 Decision, a new Exhibit A incorporating the changes adopted herein.

6 IT IS FURTHER ORDERED that this Decision shall become effective immediately.

7  
8 **BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION**

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10   
11 CHAIRMAN

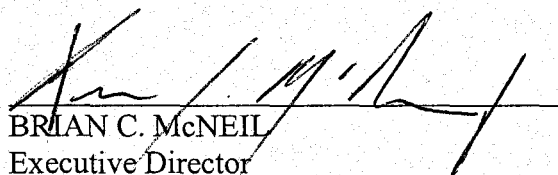
  
COMMISSIONER

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14 COMMISSIONER

COMMISSIONER

  
COMMISSIONER

15 IN WITNESS WHEREOF, I BRIAN C. McNEIL, Executive  
16 Director of the Arizona Corporation Commission, have  
17 hereunto, set my hand and caused the official seal of this  
18 Commission to be affixed at the Capitol, in the City of  
19 Phoenix, this 20<sup>th</sup> day of April, 2006.

20  
21   
22 BRIAN C. McNEIL  
Executive Director

23 DISSENT:   
24

25 DISSENT: \_\_\_\_\_  
26

27 EGJ:RTW:lhmfJFW  
28



1 SERVICE LIST FOR: Arizona Public Service Company  
2 DOCKET NO. E-01345A-05-0373

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11 Mr. Ernest G. Johnson  
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14  
15 Mr. Christopher C. Kempley  
Chief Counsel  
16 Arizona Corporation Commission  
1200 West Washington  
17 Phoenix, Arizona 85007

## **Exhibit A**

### **Arizona Public Service Corporation**

### **Environmental Portfolio Standard Credit Purchase Program**

#### **Overview of Program**

In February 2001, the Arizona Corporation Commission (ACC) adopted the Environmental Portfolio Standard (EPS), which established goals for Arizona retail electricity providers to generate a percentage of their electricity from renewable resources. The standard also added a surcharge to customer's bills to pay for the new program. The EPS requires that a minimum of 60% of the renewable energy goal be provided from solar electric resources by 2007.

APS offers customers, who have new solar systems installed, the opportunity to sell to APS the EPS credits<sup>1</sup> and environmental attributes associated with the energy generated by the system. These credits are utilized to meet APS' EPS requirement in exchange for a payment to the customer.

The EPS Credit Purchase Program provides several different options for APS customers: 1) grid-tied photovoltaic systems; 2) off-grid photovoltaic systems, 3) solar water heating systems, and 4) solar heating, ventilation, and air conditioning (HVAC) systems. APS also has an option for solar energy system dealers and manufacturers. The energy that is generated by a customer's system is credited toward APS' requirement for renewable energy resources under the Arizona Corporation Commission's rules.<sup>2</sup> The solar water heating systems are applied towards the "other" category and the photovoltaic

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<sup>1</sup> "EPS Credit" is defined as the number of eligible kWh (after appropriate extra-credit multipliers are applied) to be used to meet a utility's EPS requirement. Eligible kWh is defined as energy purchased or produced from a system or technology that qualifies under the EPS Rules and is available to displace customer's use of electricity or gas.

<sup>2</sup> A.A.C. R14-2-1618.

Arizona Public Service Corporation  
Environmental Portfolio Standard Credit Purchase Program

systems and solar HVAC systems<sup>3</sup> are applied towards the solar electric category. The total annual benefit to any one customer is limited to \$500,000.

**General Requirements**

To ensure that the new system complies with the EPS Credit Purchase program requirements and that funds are available for the installation, a customer should reserve funding for the installation. Funds are made available for reservation on the first working day after January 1 of each year. Reservations can not be made for future years, nor can multi-year reservations be made. Funding is not guaranteed without an EPS reservation. The customer selects the system that meets their needs and obtains complete pricing information from their dealer/installer. After selection of the system, the customer must provide APS with relevant information, including a price quote from the dealer/installer. APS' reservation forms are available at [www.aps.com/eps](http://www.aps.com/eps). Once a customer has received confirmation and written verification from APS that the Company will purchase the EPS Credits, the installation process begins.

For photovoltaic systems and small water heating systems, the customer has 180 days from the date on the reservation confirmation to complete the installation. Upon request from the customer, APS will grant extensions of the 180 day requirement caused by delays beyond the customer's control. After 180 days the reserved funding will be made available to other customers seeking reservations, unless an extension has been granted. Upon completion of the installation by an Arizona-licensed contractor, the grid-tied system is inspected and approved by APS. Within 180 days of installation, the customer must notify APS and submit an executed credit purchase agreement, such as

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<sup>3</sup> Only solar HVAC systems eligible to meet a portion of the "solar electric" requirement under the EPS as approved by ACC Decision No. 67402, dated November 2, 2004 or future related ACC orders are eligible for APS' credit purchase program.

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that available at [www.aps.com/eps](http://www.aps.com/eps), and, where applicable, verification of an APS interconnection agreement, as well as the receipts confirming the system purchase price, financing costs (if applicable), payment and installation by an Arizona-licensed contractor. The customer will then receive payment from APS. The EPS Credit Purchase Agreement assigns the rights to all associated EPS credits and environmental attributes to APS and allows the system to be used by APS in meeting its EPS requirements. The assignment of the associated EPS credits and environmental attributes to APS shall only apply to the contract period for which APS pays the customer.

For large solar water heating systems and solar air conditioning systems, the customer has 365 days from the date of the reservation confirmation to complete the installation. Upon request from the customer, APS will grant extensions at its discretion.

Upon completion of the installation by an Arizona-licensed contractor, the system is inspected and approved by APS. Prior to completion or up to 180 days after of installation, the customer/or system owner must execute a credit purchase agreement with APS. The customer will then begin receiving payments from APS on the schedule described later in this document. The credit purchase agreement assigns the rights to all associated EPS credits and environmental attributes to APS and allows the system to be used by APS in meeting its EPS requirements.

All systems eligible for credit purchase must be located on an APS customer's property or supply a central plant that generates energy for an APS customer, except for off-grid systems. Any project developer that builds an eligible system that also provides energy to a non-APS customer must provide metering to document the energy received by each customer. Commercial systems may be owned by third parties, and APS may make payments to such third parties with written consent of the APS customer. Residential customers may assign payment only to an installer, dealer or manufacturer.

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Environmental Portfolio Standard Credit Purchase Program

For both residential and commercial systems, payments to third parties can only be executed after written acceptance of the system by the APS customer and execution of a credit purchase agreement with APS.

**Consumer Options**

**A. Grid-tied Photovoltaic Systems.**

With the grid-tied option, a participating customer's photovoltaic system is interconnected to the APS electric grid. The customer receives a one-time EPS Credit Purchase payment of \$3.00 per watt-DC (based on the manufacturer's rating) for purchasing and installing the system. For system expansions, payment is capped at 50% of the total cost for expansion.

For example, customers installing a new 1,000-watt solar system on their home will receive a one-time payment of \$3,000 from APS. To ensure funding is available, customers must reserve the EPS Credit Purchase funds prior to installing their system. Customers that apply for funding after the installation or after contracting with a contractor will only receive funding if it is available at that time.

To protect the reliability of APS' system and the safety of its employees, in addition to the requirement that the system be installed by an Arizona-licensed contractor, the customer is also required to execute an interconnection agreement, which addresses operational and safety standards. Beginning in 2005, each customer is required to report the total system performance to APS on an annual basis. Systems are not limited in size.

**Qualifications for Grid-tied Option:**

- This option is available to both residential and commercial customers who purchase a complete photovoltaic solar system or expand an existing

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photovoltaic solar system with all new components. A complete solar electric system includes solar panels, inverter, and other related equipment to provide AC electricity to a customer site.

- Installations must meet APS interconnection requirements.
- Customers must sign an interconnection agreement with APS.
- The system must use UL-rated components and meet IEEE 929 specifications.
- An Arizona-licensed contractor must install the system.
- The customer must provide a separate meter for the solar system, and it must be placed adjacent to the existing APS meter and marked "solar meter."
- The system generation (kWh) must be reported annually to APS.

In addition to the one-time payment option, APS will reserve a portion of the funding for commercial grid-tied photovoltaic systems that are willing to contract with APS for credit purchase based on production (i.e. cents per kilowatt hour of production) in place of an upfront lump sum payment. Term and credit purchase price for such systems are to be negotiated between the customer and APS before a reservation for the funds is made. If the reserved funding is not fully subscribed by such projects by the end of September each year, the remaining funds will be released for upfront lump sum credit purchase payments.

B. Off-grid Photovoltaic Systems.

This option is available to residential and commercial customers in remote areas who are not connected to the electrical grid and wish to purchase a solar energy system to provide power for their electrical needs. The off-grid option can provide a cost effective alternative for rural customers, who would otherwise incur a line extension cost to receive electrical service. APS will also make this option available to residents in remote

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fringe areas that are adjoining the Company's service territory, with the permission of the adjoining utility. A customer receives a one-time EPS Credit Purchase payment of \$2.00 per watt-DC for the installation of an off-grid remote photovoltaic system, up to a maximum of 5kW. For example, a 1,000-watt solar system qualifies the customer to receive \$2,000 from APS. For system expansions, payment is capped at 50% of the total cost for expansion.

Qualifications for Off-Grid Option:

- This option is available to customers who purchase a new, complete, or expand an existing remote photovoltaic solar system. A complete remote solar electric system includes solar panels, batteries, inverter, and other related equipment to provide AC electricity to a customer site.
- The system must be installed in APS service territory, with limited exceptions in fringe areas.
- The system must use UL components and meet IEEE 929 specifications.
- An Arizona-licensed contractor must install the system.
- This option is limited to a maximum system size of 5 kW.

C. Small Solar Water Heating Systems.

This option is available to both residential and commercial customers to replace an electric water heater or other water heating system approved by the ACC. The customer receives a one-time EPS Credit Purchase payment for the installation of a solar water heating system of \$0.50 per first year kilowatt hour savings based on the OG-300 rating from the Solar Rating Certification Corporation ("SRCC").



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Qualifications for Solar Water Heating System:

- This option is available to both residential and commercial customers and must replace an electric water heater or other water heating system approved by the ACC.
- The system must have obtained certification under the Solar Rating and Certification Corporation's OG-300 system rating test.
- An Arizona-licensed contractor must install the system.
- This option is limited to systems rated at ~~100,000~~ 10,000 kWh per year energy savings or less.

D. Large Solar Water Heating Systems

This option is available to commercial customers to replace an electric water heater or other water heating system approved by the ACC<sup>4</sup>. The customer receives a production-based incentive (PBI) for the thermal energy delivered by a solar water heating system of \$0.07 per kilowatt hour-equivalent based on metered production. The PBI is for a term of 10 years or 50% of the total system cost, whichever comes first. The cost associated with financing the system may be included in the total system cost (receipts or documentation must be provided to APS at the time of the credit purchase agreement execution) and the allowable finance rate is capped at the federal prime rate plus 5%. For example, if a solar system costs \$20,000 and the financing cost is \$2000, then the total system cost (for purposes of this Credit Purchase Program) is \$22,000. Accordingly, the maximum PBI would be \$11,000. Payments are made at the end of each calendar quarter within 30 days of receipt of

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<sup>4</sup> Currently, APS is limited to providing incentives for natural gas customers to two customers per calendar year and a maximum of 60,000 therms per calendar year. If this order is amended or superseded by any other ACC Order, APS' credit purchase program would reflect such a change.

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thermal meter readings. The customer is responsible for providing meter readings. APS reserves the right to inspect the system, including the meter (s), at any time. For purposes of payment, 3,412 BTUs equal one kWh.

Qualifications for Large Solar Water Heating Systems:

- This option is available to commercial customers and must replace an electric water heater or other water heating system approved by the ACC.
- Minimum system size is 5,000 kWh per year energy savings
- Payments are based on delivered BTUs which are defined as BTUs generated and used for heating water excluding waste heat.
- An Arizona-licensed contractor must install the system.

E. Solar HVAC Systems

This option is available to commercial customers to replace an electric HVAC system or other HVAC systems as approved by the ACC. The customer receives a PBI for the thermal energy delivered for cooling by a solar HVAC system of \$0.16 per kilowatt hour-equivalent based on metered production. In addition, systems that incorporate solar thermal heating and/or solar thermal water heating are eligible for the large solar water heating PBI of \$0.07 per kilowatt hour-equivalent of thermal energy delivered for heating. The PBI is for a term of 10 years or 50% of the total system cost, whichever comes first. All heating and cooling payments are credited for calculation of the 50% cap. The cost associated with financing the system may be included in total system cost (receipts or documentation is provided to APS at the time of the credit purchase agreement execution), and the allowable finance rate is capped at the federal prime rate plus 5%. For example, if a solar system costs \$20,000 and the financing cost

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is \$2000, then the total system cost (for purposes of this Credit Purchase Program) is \$22,000. Accordingly, the maximum PBI would be \$11,000. Payments are made at the end of each calendar quarter within 30 days of receipt of thermal meter readings. The customer is responsible for providing meter readings. APS reserves the right to inspect the system, including the meter (s), at any time. For purposes of payment, 3,412 BTUs equal one kWh.

Qualifications for Solar Air Conditioning Systems:

- This option is available to commercial customers and must replace an electric HVAC system, or another HVAC system approved by the ACC, and may be used for new construction if not prohibited by another Commission Decision or waiver restriction.
- Minimum system size is 10 tons of cooling.
- Cooling and heating must be metered and reported separately.
- Payments are based on delivered BTUs which are defined as BTUs generated and used for cooling and/or heating purposes excluding waste heat.
- An Arizona-licensed contractor must install the system.

Dealers and Manufacturers of Photovoltaic Solar Energy Systems

Dealers and manufacturers of photovoltaic solar energy systems may apply for the EPS Credit Purchase agreement for their own installations on their own premises. Dealers receive a one-time EPS Credit Purchase payment of \$3 per watt-DC or 50% of the system cost basis, whichever is less. The cost basis for a dealer will be based on their actual cost of the technology. In addition to the general and grid-tied system requirements, dealers and manufacturers must also comply with the following.

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Additional Requirements for Dealers and Manufacturers:

- A dealer cannot profit from installing their own systems on their facilities or include a markup on systems sold to themselves or their employees.
- Dealers cannot include installation in the cost basis for the EPS Credit Purchase Program.
- Dealers must be able to verify the cost they paid for each system component by providing a purchase invoice or receipt for each major component with the reservation and agreement.
- Manufacturers are treated the same as dealers but they cannot include their own technology in the cost basis for the EPS Credit Purchase Program.